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SOCIETY OF ARTS.

FRIDAY, JANUARY 28th, 1853.

EIGHTH ORDINARY MEETING,

Wednesday, January 26th, 1853.

THE Eighth Ordinary Meeting of the Society was held on Wednesday, the 26th, C. Wentworth Dilke, Esq., Vice-President, in the Chair.

The following were elected Members :

Adye, Capt. J. Miller, R.A., Woolwich.
 Adye, Capt. J. Mortimer, R.A., Woolwich.
 Allan, James, 7, York-terrace, Regent's-park.
 Ball, John, 57, Coleman-street, City.
 Barrand, Henry, 23, Camden-grove, Kensington.
 Barron, Francis, 436, Strand.
 Batchelor, Dr. W., 9, Finsbury-place South.
 Belcher, Henry, Whitby.
 Bennison, W., 4, Fitzroy-square.
 Briggs, Arthur Rennie, Lewes, Sussex, and Reform-club.
 Clutton, John, Whitehall-place.
 Cooper, John Douglas, 8, New-street, Spring-gardens.
 Couchman, John William.
 Cruickshanks, Patrick, 17, Gloucester-gardens, Westbourne-terrace.
 Davies, T. H., 19, Hanover-street, Regent-street, and Burstead Lodge, Twickenham.
 Gray, John, 5, Billiter-square, City.
 Humphreys, Edward, Bridgwater Foundry, Patricroft, near Manchester.
 Martin, Edward Waller, Guildford.
 Maudslay, Joseph, 5, Cheltenham-place, Lambeth.
 Moring, Thomas, 44, High Holborn.
 Preller, Charles Augustus, Tulse-hill, Surrey.
 Reynolds, Capt. H., Blechingley, near Reigate.
 Seymour, Henry Danby, M.P., Knoyle House, Hindon, Wilts.
 Sheehan, John, Cornwall Lodge, Cornwall-terrace.
 Soward, John, 241, Tottenham-court-road.
 Tufnell, Edward Carleton, 26, Lowndes-square.
 Walker, Robert, 40, King William-street, London-bridge.
 Ward, Capt. Edward Wolstenholme, R.E., Woolwich.
 Weddell, George, 3, York-place, Kentish Town;

and the names of eleven candidates for membership were read.

A paper was read by James Glaisher, Esq., F.R.S., "On the Chief Points of Excellence in the different Processes of Photography, as illustrated by the present Exhibition." The author commenced as follows :

When, in 1851, the photographic pictures were placed in Class X. of the Great Exhibition, they fell under the careful examination of its jurors, and in writing the report in my official capacity, I preserved as much as possible the individual character of each, that the information so collected might become a means of estimating future advance.

It seemed therefore desirable, as this collection has arisen out of the former, that its pictures should be subjected to a similar examination and description, with the view of showing the actual state of the art at present, and, by comparison, to note its advance in the interval of time which has elapsed since 1851.

One great defect of the present collection is the absence of all information respecting the circumstances under which the photographs have been taken, as to time of year, time of day, clearness of sky, temperature, humidity of the air, &c.; and also without any information respecting the cameras which have been employed.

It was in 1851 a matter of regret that the existing state of photography in England was not well represented. This was owing to the force of restrictions, which, happily, are no lon-

ger in operation, and the present collection I believe to be well illustrative of its practice and application.

It is necessary to explain that the conclusions at which I have arrived in the present paper are based upon the examination of all here collected, assisted by the classification and discussion of individual notes, applying to above two hundred of the pictures here collected. These notes are appended to the conclusion of the paper, but will not be read this evening.

I therefore purpose to treat of the various excellencies and imperfections exhibited in the pictures here assembled, for the most part without reference to their producing causes.

[Mr. Glaisher then proceeded to describe in detail the chief peculiarities of the various photographic pictures exhibited. It is obviously impossible to give an abstract of this elaborate and most valuable critique.] In conclusion he said—

I have now enumerated, as far as time has permitted, the leading features of the present collection, which, I have already observed, may be considered illustrative of the condition and application of paper photography.

The exhibitors of 1851, whose works are now before us, are Messrs. Buckle, Owen, Ross and Thomson; Pretsch, of Austria; Martens, Flacheron, and H. Le Secq, of the Continent. From what has been already said, it is to be inferred that the relative position of these exhibitors is not that which they occupied on a former occasion; thus, we find that Mr. Pretsch, the recipient of a prize medal, has since applied himself to the production of pictures of so much larger area, and with such a considerable degree of success, as to have assured to our photographic practice a permanently extended range. Mr. Buckle, the recipient of a Council Medal, on the other hand, has confined himself to the repetition of his beautiful little works, the same now as when they first claimed our admiration, and I cannot but concede the higher place in the present collection to Mr. Pretsch.

Mr. Owen has greatly improved in his practice since 1851, when he exhibited a series of calotype pictures, chiefly landscapes and woodland scenery; they were then adjudged to be somewhat dark and heavy. Nos. 82 and 88, similar subjects, indicate the partial continuance of these defects; but the pictures executed for the Royal Commission, and his more recent attempts at the delineation of interiors, raise him to a higher position in the present collection.

Ross and Thomson, from the greatly increased size and successful results of the large works they have exhibited, are entitled to maintain their former ground.

Mr. Bingham has confined himself to the same subjects as formerly, and with the same results, excepting increased photographic finish, from reiterated practice.

M. Marten's two pictures contributed by Mr. Knight to the present collection, were formerly exhibited in 1851.

Both Le Secq and Flacheron indicate advance as regards the size of their contributions. We trace advance throughout the whole collection in the larger size, and superior application rather than to the increased perfection of the results.

That this should be the case, is referrible to the fact that every increase of size develops, in still greater force, the defects which, under all forms and modes of manipulation, have been attached to photography. In the present collection we have five processes, and their application is well represented. We find the range of practice assigned to the Calotype has been very general, with a leaning, however, to out-door and local scenery. That of the Wax Paper has been more strictly defined; and on the Continent, with the exception of Regnault, we find it employed in architectural designs and fragments of carved and massive ornamentation. In England it has been chiefly employed to perpetuate the passing scene, with little discrimination as to its character. The Albumenised Glass has been applied to general representation; its powers are more especially known in England by the views of Holyrood and the beautiful views of Melrose Abbey; and in France by Ferrier, who has applied it to landscapes, groups of statuary, and various subjects of interest taken from the Exhibition.

The Albumenised Paper is represented by Mr. Goodeve, and has been employed likewise upon groups of statuary.

The Collodion has furnished us with designs of various character, including the entire bulk of portraiture in the present collection. The bias discernible in each process leads us to the investigation of their respective fitness to meet the requirements of general or special application.

To judge solely by the intrinsic excellence of the results exhibited, we must come to the conclusion, that the collodion is the process to be essentially cultivated; with few exceptions, the failing points in the most indifferent specimens are less exaggerated than those either of paper or albumenised glass; it most frequently exhibits a natural interpretation of the lights and shadows, which rarely fails to communicate a similar effect to the subject. We also find that this process, if less eminent in failure, is still more eminent in success, as compared with others here represented. It must be evident to every one, who thinks for a moment on the subject, that a process which combines the excellencies of our best photographs with fewer of their defects, or their defects less exaggerated, is not to be overlooked. I have no doubt myself that the attention of our photographers will continue steadily directed to its improvement, and that before long some successful attempt will be made to secure outdoor representations of larger area than have yet been attempted.

The leading application of the paper process is not that which continued cultivation of the collodion will assign to it. I refer to the representation of woodland and forest scenery, so fraught with difficulty to the photographer. Of the strong resistance they oppose to his endeavours we have abundance of evidence. On all sides we perceive attempt and failure; and that the tree, whether alone and filling the central area of the picture, or one of several, is more imperfectly represented than any of the many creations of art and industry.

The same inefficiency we perceive extended to the representation of woodland scenery, and

that the specimens here collected in no degree realize our idea of nature. They are all more or less illustrative of the several modes of photographic failure. The studies, for such I view them, of forest trees exhibited by Mr. Shaw, are among the least objectionable; the beautiful detail of their knotted and rugged stems has afforded full scope for the powers of photography.

Very few of the trees exhibited are perfect in definition towards the top and outermost branches, arising from their continued stirring with the motion of the air. In the same manner the gentle movements of the leaves in summer tend to produce confused results. A more sensitive medium than the paper is required, upon which to obtain an instantaneous impression. Probably this want may be supplied by the collodion, or by Mr. Talbot's instantaneous process.

The representation of running water is a difficulty that points also to a highly sensitive process and an instantaneous impression. In No. 115, a water-mill (on paper) by Sherlock, we have a forcible illustration of the insufficiency of the means employed. The water, descending in a body from the trough above the wheel, gives the idea of a soft and rounded mass, the seeming rotundity being conveyed by the shadow which rounds the edge; the characteristics of water, as exhibited under any circumstances, are totally lost. I have already alluded to Mr. Turner in connection with this defect, and it is a fact worthy of note as relating to the existing practice of photography, that quickly running and ruffled water in the present collection has not in any case been depicted with satisfactory results.

To subjects of no great finish and delicacy of surface, the paper would seem well applied, and its general tone is more in favour of its employment than of the wax-paper. There is a wider range of result among the calotype specimens than of any of the processes here represented. Its use in the present collection has been confined to England, with the principal exception of Pretsch and Du Camp.

The wax-paper is most frequently recognisable by great strength of tone, and by the prevalence of a citrine hue, which, when carried to excess, becomes very objectionable. This process would seem to exceed the paper in the power of discriminating material. Some of the finest specimens in the present collection are due to its employment.

It would seem that the glass processes, either by albumen or collodion, are best fitted for conveying subjects of a smooth and delicate nature; this is evidenced in the present collection, where we find the greatest finish and delicacy attendant upon their results. There is little doubt, however, that the collodion, already beginning, will eventually supersede the albumenised glass in its application.

Of the albumenised paper, as above represented by Mr. Goodeve, I need make no further mention. It will thus be seen that experiment has elicited various processes, differing in their results according to their scale of action. It remains for the future so to apply this knowledge as to develop to the utmost the germ of perfection peculiar to each, and I have no doubt

this will be best performed, at the present time, by the strict avoidance of artifice in the perfection of results, now accorded to our practice. It is necessary that we progress by the slow but safe aid of experimental research.

Whether photography will ever exist as an independent art, without assistance borrowed from the artist, is a matter of pure speculation. At the present time there is much to be done before this most graphic process can approach within even near limits to the beautiful semblances of nature we find preserved in the works of our best artists. It is necessary that the photographer should receive a better artistic education; that he should be better acquainted with those laws belonging to science by which the canvass is made to assume the semblance of some of nature's most agreeable effects; it is necessary that he know how to choose his point of view; to decide upon the proper balance of light and shade; to have a correct appreciation of the strength of outline and development of parts belonging to the distances of his picture; that he shall not resort to violent contrasts for effect, and that he shall choose that tone most in accordance with his subject. The true knowledge of these, among other things, must belong to the photographer who would step beyond the level of ordinary practice. To the artistic spirit infused into the Photographic Society, so newly organised, we must look for his better guidance in reference to those points of study; but with all its imperfections, photography may be considered as sufficiently under control to be rendered a subsidiary and highly useful art. This is proved in the present collection; and I am enabled to point with satisfaction to the utilitarian character it is likely to assume. In 1851 it was a matter of regret that we found specimens calculated alone to please the eye or administer to personal feelings; now it is otherwise; we have here indications of its application to the microscope in the specimens exhibited by Messrs. Pretsch and Sims; to the medical profession, in the type of mental disease exhibited by Dr. Diamond; at the same time, the tropical scenery of Du Camp, and the copies of engravings by Messrs. Turner and Berger, alike extend our information and multiply our resources. Nor is the entire collection without its influence in a moral point of view. It is not possible that the collection of such graphic memorials of art and genius can fail to cultivate the eye and diffuse a purer taste among the public generally.

Never in our early days could we have anticipated that the noblest edifices reared by man, in the height of his devotion and his power, could be momentarily arrested in their progress to decay by such transcripts as we now possess.

Possessed of such transcripts—showing alike the creative power of man, and the destroying agency of time—the scroll of the past will be open to the future; and the present generation, educated in the knowledge of the fine and beautiful in art, will lead on to the full appreciation of the truths to be confirmed to posterity, by the agency of this new-born but already powerful art.

A very large number of the photographic pictures are wanting in verticality, and are thus

rendered very displeasing. This defect is wholly attributable to negligence, in not properly adjusting the visual axis of the camera. Every photographic camera should be furnished with a spirit-level, to secure horizontal adjustment in the field with facility and certainty.

In some cases it seems that indifferent object-glasses have been used, and in some others, where the object-glass has been good, it has been so ground as to give good definition within very narrow limits. It is probable that experiments are required to determine the form of lens which will give the best photographic picture. At present I should recommend that lens which will show distinctly the greater number in preference to that which would show exquisitely one only; as in practice with the latter the central part may be beautifully shown, whilst the surrounding parts are not; but in the use of the former, we should be certain of an equally good definition over a large area.

MR. ROBERT HUNT observed, that the information the absence of which Mr. Glaisher had regretted,—namely, as to the time of day, the temperature, humidity, and other circumstances under which the specimens in the Society's Exhibition were taken,—would not have given that nicety of observation which it was desirable to possess. If, however, the photographer, whilst taking his picture, could notice the effect produced with the prismatic spectrum in a given time, it would be of great importance. It was stated by Neipsee and Daguerre, that a picture could be better taken at ten in the morning than at two in the afternoon; and that photographs were more affected, and changed more rapidly, in spring than in summer. Experience confirmed this truth; and it was desirable to ascertain its cause. Did it depend upon the variation in the moisture, or in the temperature of the atmosphere, or upon what other circumstances? In all the specimens exhibited, there was artistically a certain amount of defect; the bright lights were too strong, in contrast with the deeper shadows; and even in the most successful, the objects did not strike the eye as in nature. This was particularly seen in the trunks of trees, in grass, in roads, and red fronted houses; and it arose from the unequal amount of chemical radiation proceeding from those differently coloured surfaces,—mainly because all objects which had any mixture of yellow, orange, or red, in their colour (constituting the browns, greens, yellows, &c., in nature), did not produce the same amount of chemical action as those which, having blues and indigos instead, would produce a greater amount of brightness. The luminous and the chemical rays of the sun were not the same in action, or in the amount of refraction which they underwent in passing through the lens of the camera. If Mr. Fox Talbot's iodized paper were exposed to the action of the prismatic spectrum, the red, the orange, the yellow, and a portion of the green rays would produce no impression on the paper; whilst the blue, indigo, and violet rays, with those beyond, would produce an intense impression. If, however, albumenised paper were similarly tested, the action extended considerably lower into the luminous rays. If collodion were tried, a very great degree of chemical action would be found throughout the whole of the yellow rays; therefore, the extreme sensibility of the collodion process might be explained by its bringing into play a greater amount of chemical radiation. He did not, however, regard the

yellow or red rays as having any specific chemical action; on the contrary, the chemical action, and the luminous effect of solar light, were two distinct sets of phenomena,—he believed two distinct principles, which were balanced in the sunbeam in a most remarkable manner. His own experiments proved that light (or the rays producing colour) in fact retarded all chemical effect; and it was, therefore, a question of interference and balance of power; and the use of an extremely sensitive preparation was desirable, in order to get rid of that interference. Mr. Fox Talbot had produced instantaneous action at the Royal Institution, when a picture was obtained upon a glass tablet, from a printed bill affixed to a wheel, and illuminated by a spark from the Leyden jar, whilst the wheel was in rapid motion. That gentleman had added to his preparation a certain amount of spirits of wine and acetic acid, and did not use it till it had assumed a certain vinous smell; and he (Mr. Hunt) believed that the main point, producing the extreme sensibility which the experiment displayed, was to be found in the fact that, during the change which had gone on in the mixture, a combination of the acetic acid with the alcohol had taken place, producing one of the alcohoid compounds. If, therefore, photographers, instead of confining their attention to the iodide of silver, would endeavour to get some of the compounds of the oxide of silver with the various organic compounds, they would arrive at a much higher degree of sensibility, and produce far more perfect pictures than any which were at present exhibited.

The CHAIRMAN said, he might confidently ask the thanks of the meeting to Mr. Glaisher, for the time and ability which he had devoted, not only to the paper which had been read, but to a series of some 400 comments upon the pictures exhibited. It was a matter of regret that the paper could not possibly have been produced earlier; but as the Exhibition would be open during the remainder of the week, the members would still be enabled to examine the specimens, with the important advantage to be derived from Mr. Glaisher's remarks. Some valuable additions to the collection,—including some fine views of Venice, brought over by Lord Granville, had been added within the last few days.—The paper was too long for the Society's Journal, but the Council would give their best attention to the mode in which it might be made available to the members generally.

COLONIAL PENNY POSTAGE.

ON Tuesday, February the 8th, (instead of the 9th, that day being Ash Wednesday), an Extraordinary Meeting will be held at the Society of Arts; when a Paper will be read, and a discussion invited, upon the propositions of the Postage Association. It is expected that members of Parliament, and gentlemen connected with the commercial interest, will attend, besides the members of the Society and their friends.

A Local Committee, consisting of merchants of the city of London, is now in course of formation, to assist the Council of the Association in their labours. The names of all the members will shortly be published, but we may mention that the following gentlemen have already agreed to join the Committee; Baron L. Rothschild, M.P.; George Moffatt, Esq., M.P.; T. A. Mitchell, Esq., M.P.; Samuel Gurney, Jun., Esq.; Thomson Hankey, Jun., Esq., Governor of the Bank of England; J. H. Brooking, Esq.; Ingram Travers, Esq.; and J. D. Powles, Esq.

HISTORY AND ART OF ENAMELLING.

(From a Correspondent.)

THIS art is one of great antiquity, having been adopted by the Egyptians from an unknown source, and embraced successively by the Greeks and Romans; since which it has been a favourite material for embellishment among most nations.

The Anglo-Romans were acquainted with the art, as were the Gallo-Romans; and it is intimated by French antiquaries, that the enamel manufactories of Limoges were but a perpetuation of the products of the latter people. Even if this be true, it is but reasonable to ascribe to the lessons of Byzantium (the refuge of the arts after the fall of Rome), those beautiful works with which Limoges astonished the world in the twelfth century. She then supplied Europe with all varieties of articles used in the services of the church, elegantly ornamented in enamel. Marked differences in point of colour distinguish the works of this time from those of the following century. They are recognized by the variety of colours, adapted for draperies and other decorations; whilst the fashion which afterwards obtained, of enamelling only the backgrounds of subjects, rendered few colours necessary. It was also customary in the thirteenth century to place heads in relief on the metal figures, or to employ embossed figures, occasionally enamelled and jewelled.

The fourteenth century was remarkable for the introduction of a novel process, by which the subject was engraved with a raised outline on a thin plate of gold or silver beaten down, so as to leave an edge for the retention of a coat of translucent enamel of various colours. This process, which was carried to the greatest perfection by the Italian goldsmiths, paved the way to superficial enamelling on copper, which the artists of Limoges, still assiduous in extending the resources of their art, attained in the fifteenth century.

At this period, for the first time, appeared actual surface enamels, for the most part executed in transparent colours of the utmost brilliancy of effect, and enriched with small globules, receiving the effect of gems from silver spangles beneath them. The most beautiful enamels of this period are ascribed to Monvearni, who usually enclosed his works in a border of copper-gilt, enriched with pateræ.

Under the auspices of Francis I., Limoges rivalled in a new phase of enamelling her earlier productions, by employing beneath her paintings a base work of opaque enamel, occasionally retaining the brilliant colours of her predecessors, but more often employing grisaille on dark fields. Up to the end of the sixteenth century, many artists distinguished themselves in enamel painting; but from the commencement of the seventeenth century may be dated the decadence of Limoges enamel. As the art of painting in solid enamel became improved and extended, the applications of it gave way to the taste for miniature painting.

In addition to the enamels above-mentioned, in which the metal ground forms a subordinate feature, enamel was much used as an accessory to goldsmiths' work.

In Tuscany, enamel was employed at an early

date as an enrichment to other arts; for, in 1286, John of Pisa sculptured a group for the high altar at Arezzo, which he ornamented with enamels on silver. The enamellers of Limoges had, probably, from the twelfth to the seventeenth centuries, the monopoly of what may be called enamels proper,—but the goldsmiths of France, Italy, and Germany employed enamel decorations.

Among the goldsmiths of Italy, Cellini employed enamel to heighten the beauty of his works in gold and silver.

The art of enamelling was likewise practised with great success by the German goldsmiths; and many beautiful designs, by Holbein, for enamelled goldsmiths' work, are preserved in the British Museum; from which it may be gathered that the goldsmiths of this country were not unacquainted with the art. Having thus briefly referred to the past history of this interesting art, a short account will now be given of the present peculiarities due to enamels, or which they are required to fulfil, and the methods employed to form coloured enamels either opaque or transparent.

The conditions which enamels are required to fulfil are as follow: "They must be fusible at a certain moderate temperature—they must adhere strongly to the glass porcelain or metal to which they are applied—they must have a certain transparency or opacity, such as will enable the artist to produce the effects of a finished picture—they must preserve a smooth, vitreous appearance after fusion, and be sufficiently hard to resist the friction of solid substances—they must be insoluble in water, and also resist the action of the atmosphere—and, lastly, they must contract and expand to the same extent as the substance which they cover."

Enamels are composed of colouring matters which, for the most part, consist of metallic oxides, and secondly, of fluxes, or vehicles consisting of vitrifiable substances, such as silicate-borates or boro-silicates, in different proportions. The colour of an enamel results either from the colour of one of its constituents, or is the result of a chemical combination of the constituents. In the one case, the colouring matter is simply mixed with the flux, or if the flux combine with it chemically, it does not affect its colouring property; in the other case, the flux has a chemical action on the colouring matter.

Gold, silver, and copper are the metals which are usually enamelled. The enamels used must have their point of fusion below that of the metals to which they are applied. They must be higher for copper and silver than for gold. They must be very fusible when used alone, but when they form a ground for other enamels, they must be capable of resisting a high temperature without fusing.

Enamels are opaque or transparent; those which are used as a ground are opaque; those which are used in painting may be transparent or opaque; but the latter are usually preferred, especially for silver and copper. Enamelling on metal is more difficult than on glass. The presence of an oxydizable metal usually produces a reaction between the two bodies; the enamel dissolves the oxide which forms on the surface of the metal at a high temperature, and becomes

coloured thereby; or the enamel may itself oxydize the metal, in consequence of the oxide of lead contained in it, in which case the lead is reduced, and the colour is destroyed. Hence gold admits of being enamelled better than copper or silver; but if gold contain copper, some difficulties may be experienced. On copper and silver, the enamel generally undergoes some change, at least in the layer which is in contact with the metal. If the enamel is transparent, the defect is apparent; but if opaque, and the surface smooth, the defects are concealed.

Copper and silver are sometimes first covered with an opaque enamel, and afterwards with one that is transparent.

The objects to be enamelled are usually prepared for the purpose by the jeweller. They may be entirely, or only partially covered with enamel, according to the design. In the one case there must be a protecting edge to retain the enamel, and in the other certain hollows, engraved according to the design.

All the enamels which are applied to metals have a vitreous, transparent, colourless base. The following are receipts for transparent enamels:

	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.
Silica ...	3 parts	3 parts	3 parts	10 parts	3 parts
Minium ...	3	4	5	15	6
Nitre ...	2.5	2	1	4	0
Borax ...	0	1	1	1	1

Opacity is given to enamels by the addition of a certain portion of—1, oxide of tin; 2, phosphate of lime, or, 3, oxide of antimony. The oxide of tin is first combined with the oxide of lead before the enamel is made. For this purpose, metallic lead and tin are fused together, and raised nearly to a red heat; the oxide which forms on the surface is removed as fast as it is formed; heat is again applied to render the oxide more complete. It is next stirred up in water, to precipitate the minute portions of metal which have escaped oxydation, and in this way the oxide can be separated.

The proportions of tin and lead which are to be thus fused together, vary according to the composition of the enamel into which these oxides enter. A quantity of oxide of tin, equal to about one-tenth of the weight of the enamel, will render it of an opaque white. The proportion of lead is variable, according to the kind of enamel required. For this purpose the following alloys will be found useful:

	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.
Lead ...	3.5 parts	5 parts	6 parts	6 parts	7 parts
Tin	1	1	1	1	1

In the following receipts for opaque enamels, the oxide of one or other of these alloys is used instead of the oxide of lead in the transparent enamel:

	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.
Silica ...	3 parts	3 parts	3 parts	10 parts	3 parts
Alloy ...	4	5	6	18	7
Nitre ...	2.5	2	1	4	0
Borax ...	0	1	1	1	1

The above enamels are those adapted to gold. The most fusible enamels required for copper and silver may be formed by the addition of one-eighth of their weight of calcined borax. By the further addition of this substance, the fusibility of enamels may be increased at pleasure.

Coloured enamels may be formed either opaque or transparent, by melting up with any of the above enamels a certain portion of some metallic oxide, as indicated in the following receipts:

	Parts.
Blue enamel Opaque or transparent enamel	10
Oxide of cobalt	1 to 2
Green enamel..... Opaque or transparent enamel	6
Oxide of chromium	1 to 2
Another green ... Opaque or transparent enamel.....	30
Binoxide of copper	1 to 2
Violet enamel ... Opaque or transparent enamel	30
Peroxide of manganese	1 to 2
Yellow enamel ... Opaque or transparent enamel	6
Chloride of silver	1 to 2
Purple enamel ... Opaque or transparent enamel	12
Purple of Cassius	1 to 2
Black enamel ... Transparent enamel	15
Oxide of copper, oxide of cobalt, and oxide of manganese, of each	1 to 2

A further account of the methods of treating enamels in pottery and porcelain, will be found in the very able work by Charles Tomlinson, entitled "Cyclopædia of Useful Arts," from which the receipts given above are taken.

PHOTOGRAPHIC SOCIETY.

A NUMEROUS meeting of photographers, artists, and others interested in the progress of photographic art, was held in the Meeting-room of the Society of Arts, on Thursday, the 20th, to take into consideration the formation of a Photographic Society for the encouragement and development of this very beautiful branch of the fine arts; Sir Charles Eastlake, President of the Royal Academy, in the chair.

Mr. Roger Fenton read a brief report of the "Photographic Committee," setting forth the present position of photography and its future prospects, and concluding with the statement, that in the opinion of the Committee, a Photographic Society would be a valuable and useful institution, and that its formation would tend materially to promote the advancement of the art.

It was then moved by Sir William Newton, and seconded by Mr. R. Hunt, "That a society be now formed, to be called the Photographic Society."

Mr. PETER LE NEVE FOSTER said, that he had been deputed, with Dr. Playfair and Dr. Booth, by the Council of the Society of Arts, to bring the following resolutions, passed at a recent meeting of the Council, as suggestions, before the meeting.

1st. "Feeling strongly convinced that the various branches of science and art are, to a very great extent, dependant upon, and intimately connected with each other, and that the multiplication of societies for special objects, in any branch of the applied sciences, is not generally desirable, inasmuch as it tends to separate, rather than unite, for the advancement of a special object, the labours of individuals; and finding that steps are being taken by several of the leading photographers for the formation of a Photographic Society; the Council of the Society of Arts are of opinion that the objects contemplated by that proposed Society are intimately connected with those which for many years past have received the especial attention of the Society of Arts; and that, therefore, it is desirable to suggest to the gentlemen engaged in this direction, whether the progress of photography may not be as effectually advanced by means of the existing machinery of the Society of Arts."

2nd. "That in the event of this suggestion being adopted, the Council will be cordially prepared to devote funds, rooms, officers, and publications, with such other facilities as may be necessary for the full development of

photographic art, by the organization of a special department, under the direction of a photographic committee."

The suggestion thus made did not, however, seem to meet the wishes of the majority of the meeting, who evidently considered that the progress of the art would be best secured by the formation of a special society.

Mr. Fenton then read the proposed rules of the new society, which were adopted. A Council were chosen. Sir Charles Eastlake was elected President, Mr. Roger Fenton, Honorary Secretary, and a considerable number of members were enrolled.

PROMOTION OF ELEMENTARY DRAWING.

THE following Circular, showing how Public Schools and Mechanics Institutes may obtain of the Department of Practical Art examples for acquiring an elementary knowledge of form and colour, and of what the examples consist, has just been issued by the Department, and will be found to have an interest for the Institutions in union with the Society:

List of the Examples, &c., which may be obtained from the Department by National and other Public Schools, and Mechanics' Institutes, at half the prime cost.

The Lords of the Committee of Privy Council for Trade having had under their consideration several applications from the managers and masters of National and other Public Schools for grants to be made to them of drawing copies, and examples used by the Department of Practical Art, in teaching elementary drawing, think it necessary to adopt some general principle which shall regulate the decisions of the Board in reference to such applications.

My Lords already have fully recognized the great importance of elementary drawing to all classes of the community, in all relations of life, and have expressed their opinion that the first step to be taken to elevate public taste in the appreciation of correctness of form, is to cause drawing to become a part of national education. Their Lordships are therefore desirous that the Department of Practical Art should assist, as far as possible, in promoting the distribution of the means of accomplishing this object; but as the indiscriminate gift of examples to all applicants might lead to abuse, it is necessary to require some guarantee that the examples will be duly appreciated, which the mere request to have them does not imply.

The principle which governs the whole proceedings of the Department, in all its branches, is to afford partial aid; and to encourage, but not supersede, public exertions in promoting education in art. Thus the means of study in the Museum of Ornamental Manufactures are afforded, lectures are given, and students are enabled to obtain the best instruction in all the schools by payment of low fees in aid of the expenses; and my Lords consider that the same principle should be observed in the distribution of examples. They have therefore resolved that the Department shall have the power to assist schools with examples for teaching drawing upon the condition that the applicants are willing to pay half the prime cost of them. By this means, when a school is willing to subscribe 1*l.*, the Department will furnish examples of the value of 2*l.*, and so on, as far as the Parliamentary Grant will permit.

A List of the examples of drawing copies, models, casts, and materials, which the Department will be prepared to furnish on these terms, may be obtained of the Secre-

tary of the Department of Practical Art, Marlborough-house, London. It should be distinctly understood, that the privilege of purchase can be obtained only by Public and not Private Schools, and Institutions, and not by individuals.

It is desirable that every Public School, &c., should possess ALL the three following Collections of Examples, &c., if they can be afforded. If this be not possible, then it is recommended that they be procured in the order 1, 2, 3; any one of the three Collections may be obtained, but *Portions of a Collection cannot be procured of the Department.* Application for portions should be made to Messrs. Chapman and Hall, 193, Piccadilly, London.

COLLECTION I,

Which may be procured of the Department by any Public School for twenty-seven shillings, being half the prime cost to the Department. If a further supply is required for the same School, then the full cost to the Department will be charged.

1. A black board. 2. Six brass holders for Chalk. 3. Wooden compasses, and white chalk. 4. Slip and two set squares. 5. T. square. 6. A set of each of the letters A O S, mounted. 7. A set of twelve outlines on black and white grounds, mounted. 8. A set of twelve plates of outlines for the black board, mounted. 9. A large diagram of colour, mounted. 10. A small diagram of colour, mounted. 11. A manual and catechism on colour. 12. Definitions of plane Geometry, by Mr. Burchett. 13. Two colour-boxes. 14. Two cases of Instruments. 15. Catalogue of the articles in the Museum at Marlborough-house, with six prospectuses of the Department. 16. Addresses of the Superintendents on Elementary Drawing. 17. Addresses of the Superintendents on the Facilities afforded by the Department for acquiring Art—Education. 18. Five Placards of the Principles of Decorative Art.

COLLECTION II,

Which may be procured of the Department by any Public School for 4*l.*; being half the prime cost to the Department. If a further supply is required for the same School, then the full cost to the Department will be charged.

1. A stand with a universal joint, to show the solid models, &c. 2. One wire quadrangle with a circle within it, and one straight wire; one solid cube; one skeleton cube; one sphere; one cone; one cylinder; one hexagonal prism. 3. The Elementary work on Practical Geometry, 12 inches by 17 inches; diagrams opposite the text. 4. The Elementary work on Practical Perspective, 12 inches by 17 inches; diagrams opposite the text. 5. The Drawing-Book of Elementary Outlines of Ornament, by Mr. Dyce, 75 plates mounted and "Kalsomined,"—that is, the surface may be washed. 6. A set of the fifteen first plates of the Elementary work on Practical Geometry (same as No. 3), mounted and "Kalsomined." 7. A set of twenty-six plates of Practical Perspective. 8. Three objects of form in Pottery; *Minton's Bottle*, No. 508; *Indian Jar*, 487; *Celadon Jar*, 480.

COLLECTION III,

Which may be procured of the Department by any Public School for 2*l.* 10*s.*; being half the prime cost to the Department. If a further supply is required for the same School, then the full cost to the Department will be charged.

1. One set of Outlines of Ornament, by Mr. Herman, 12 plates mounted and "Kalsomined,"—that is, the surface may be washed. 2. One set of Outlines of the Human Figure, by Mr. Herman, 20 plates mounted, &c.

3. Four Outlines of Tarsia, from Gruner, mounted, &c. 4. One set of examples of ornament shaded, 4 plates, mounted, &c.: Antique Scroll, Greek Honeysuckle, Frieze from Ghiberti Gates, Renaissance Rosette. 5. Shaded examples of Biga, or Ancient Car, from Gruner, mounted, &c. 6. Six coloured examples of Flowers, mounted and "Kalsomined." Pelargonium, Petunia, Nasturtium, Camellia, Wall-Flower, Althæa Frutex. 7. Three selected Vases in Earthenware (Wedgwood's, No. 176, 882, 940.) 8. Three selected patenæ. 9. Three selected pieces of ornament in relief. 10. Three large shells, such as *Dolium Chinense*, *Murex colosseus*, *Pecten opercularis*. 11. Three other selected shells, such as the *Haliotis Virginea*, *Cassia Rufa*, *Cassia Glauca*. 12. Three selected stuffed birds, as examples of colour, such as *Crimson Tanager*, *Orange Oriole*, and *Blue Mountain Parroquet with extended wings*. 13. One copy of Redgrave's Report on the "Design" of Articles exhibited in the Great Exhibition of 1851, half-bound.

WALTER RUDING DEVERELL, Secretary.

January, 1853.

The following new Rules have recently been sanctioned by the Board of Trade, for the management of the Metropolitan Female School, at 37, Gower-street. Students before entering the Elementary School must be able to draw the copies of the letters A. O. and S., which may be obtained at the School, and they must also have a knowledge of the names of certain geometrical forms which are contained in a Text-book of definitions of Practical Geometry, to be obtained at the Female School; and no student will be admitted without examination upon such book. Every student desirous of entering the upper school must make drawings from the most advanced examples in the Elementary School, and have a knowledge of the elementary laws of colour,—a Text-book of the Laws of Colour may be obtained at the school, on which every applicant for admission to the upper school will be examined. The new Fees are as follow:—General Course; Entrance-Fee, Two Shillings. *Elementary Classes*, Three Shillings a Month,—Seven Shillings for Three Months, and Ten Shillings for Six Months. *Advanced Classes*, Four Shillings a Month, Nine Shillings for Three Months, Twelve Shillings for Six Months; Course for the *Figure and Artistic Anatomy*, Four Guineas a Year, or Thirty Shillings a Quarter.

The Classes meet in the day; but an Evening Class for those who cannot attend in the day is to be forthwith established.

HOME CORRESPONDENCE.

OUTLINE DRAWING.

90, George Street, Edinburgh, 10th, Jan., 1853.

SIR,—In your seventh number, you make some remarks on the Fine Art section of the premium list regarding outline, and the ideas by which you illustrate them, appear to me to coincide so exactly with those I advanced about nine years ago, with reference to the useful art of ornamental design, that I take the liberty of addressing you upon the subject.

It will be seen from your advertising columns, that one of my works is "*An attempt to develop and elucidate the True Principles of ornamental design*," and that another is a similar attempt to develop the "*First Principles of symmetrical beauty*."

In the first of these two works, which was published

in 1844, I insist upon the necessity and advantage of cultivating the knowledge and practice of outline in these words. "The outline is what constitutes the figure of the ornament, and the impression of beauty or deformity is conveyed to the understanding as effectually by this line, when it inscribes a plain figure, as when it surrounds a solid body; for no object in nature can depict any thing upon the retina of the eye but a plain figure; and it is only by experience that we become aware of any object having other dimensions than length and breadth. Hence, as every solid form is but the fluent of a plain figure, the eye, or rather the perceptive faculty through the eye, may be so far deceived by an imitation of light and shadow, within the outline of such a figure, as to mistake it for a solid body; but it never can be mistaken in regard to its configuration" (which configuration, or contour, the outline only determines). "The combination of plain figures produced by lines is, therefore, susceptible of every modification of the harmony of form, independently of light and shadow." And it is consequently treated in the essay in question accordingly. Thus our ideas are identical in respect to the important nature of a true outline, and its value as an element in art.

I have observed, and now think it time, in justice to myself, to state the fact, that, notwithstanding the numerous lectures and essays upon the true principles of ornamental design, to which the Great Exhibition of 1851 has given rise, nothing on that subject has been expounded beyond what is to be found in the two works to which I have alluded, where these principles are not treated of in words alone, but are illustrated in the most ample manner. I do not, by this statement, assume that there has been any plagiarism from my works on the part of the Lecturers or Essayists, but simply to show that the Great Exhibition, having opened the eyes of its promoters to the general deficiency in this kind of knowledge, so many now prosecute the inquiry that the truth must now and then come out.

My two works on the subject, however, appeared at a time when they could not be understood by those who directed our schools of design, nor relished by the teachers who then thought, as some still continue to think, that it is equally below the dignity of their genius, or the art in which it is developed, to be in any way trammelled by rules. These books, therefore, were not countenanced by the generality of artists; and not belonging to that popular class of literary works which conduces more to the amusement than the improvement of mankind, could not meet with the same degree of notice from the public press. Yet these humble efforts of mine were honoured with highly favourable notice in two metropolitan Journals, of the highest class, namely, the *Spectator*, and the *Athenæum*.

The insertion of this letter would greatly oblige me, and I think it would be usefully interesting to that numerous class of your readers who are in search of the true principles of design.

I am, Sir,
Your most obedient Servant,
D. R. HAY.

LECTURES.

— Mechanics' Institution,
Jan. 12th, 1853.

SIR,—The subject of Lectures and Lecturers for the Associated Institutions, which I see has been discussed in the Journal of the Society of Arts, of the 7th January, is one of great importance. This Institution, like some other country ones, was unable to undertake

the risk of bringing the Society's Lecturers from London, seeing that hitherto the lectures we have had have been of a gratuitous character (excepting the mere expenses of lectures), and a fixed charge for admission, of a sufficient amount to pay the fees and expenses of gentlemen from London, would only have the effect of keeping away the major part of our audiences, who cannot afford such sums, and, if they could, have not yet interest in public lectures sufficient to induce such outlay; for in small towns, the *Mechanic* element constitutes the bulk of our audiences, and such our Institutions purpose chiefly to benefit in their operations; for, though in many cases, from their indifference to these matters, and preference of grosser amusements, *Mechanics'* Institutions have fallen into the hands of the middle classes, yet they are primarily designed for the operative portion of the community, and in all our arrangements for the proper conduct of our societies, this fact should always be kept prominently in view, both in the instruction given by books and lectures, and in the sum charged for these, so that mechanics may, at least, have it in their power to avail themselves of the benefits of our Institutions; for without this all our efforts are a mere mockery, and we place the workman, like Tantalus, up to the chin in the element of knowledge, but forbid him to taste of its blessings.

To conclude, I most cordially agree with the suggestions of "J. S." in your Journal, as to the Society of Arts forming and endowing a staff of lecturers, to be sent, according to a fixed plan, to the Institutions in Union, without any cost to them beyond that included in their annual subscription to the Central Society in London, which of course would require to be increased a little in amount, but yet not to any very large sum, seeing that if this was paid by every Institution, a large sum would thereby be raised, and enable the Central Committee to do this desirable work very effectively. I do most earnestly hope that this matter may be taken into serious consideration, so that all the associated societies may receive some tangible benefit from their union with so potent an institution as the Society of Arts.

I am, Sir, your obedient servant,
DELTA.

MEASUREMENT OF TONNAGE.

Parkstone, Poole, Jan. 24th, 1853.

SIR,—Your correspondent, Mr. Roberts, is in error when he states, that in the old system of measurement for register tonnage the element of depth is not taken into account. One of the items of the old measurement includes the number of feet between the wing transome and the upper edge of the keel. But both the old and the new regulations for ascertaining the register tonnage of sea-going vessels, are utterly at variance with progress in the form of a ship's hull. They are arbitrary rules giving false results, even when shipwrights adhere to a certain fashion or custom; but when any change takes place, the error of these rules amounts to an absurdity; in fact, the tonnage might almost with equal propriety be calculated from the name of the vessel.

A merchantman, for instance, will often carry considerably more than half as much again as her registered tonnage amounts to, while a vessel calculated for sailing only as a yacht, will carry no tonnage at all, being fully loaded with her ballast and equipment. For the yacht-building community have quite as great an object in view—that of defrauding or evading the regulations of the yacht clubs—as the shipowners have in defrauding the revenue.

In short, all arbitrary rules for ascertaining the register tonnage other than the actual burden she can carry, are an effectual bar to all progress in ship-building,—that is, in the production of vessels equally calculated for sailing and carrying. Let any person take an end view of a tier of merchantmen in harbour, and he will readily perceive that they are all without exception *wall-sided*; that is to say, that nearly four-fifths of the ship's side is nearly as flat as the wall of a garden, from which similarity the term *wall-sided* is derived.

Mr. Roberts is also in error when he attributes the bad form of our merchantmen to the desire of ship-owners to underman their vessels—the great object being to reduce the tonnage dues to a minimum in relation to the actual burden a ship can carry—in other words, to defraud the revenue to an enormous extent.

The time is surely arrived when the voice of the nation should be heard, and that in obedience to the dictates of common sense and honesty, the registered tonnage of a ship shall be the actual weight she can carry when sunk to her load water-line, and in proper sea-going trim. Our shipping might then be the first in the world, as well for speed as for carrying powers; for our shipwrights are inferior to none in skill and capabilities, only under the present incubus of the absurd tonnage laws their talents are directed to a false, not to say a fraudulent end. Neither is there any insurmountable difficulty in the way, as is amply proved by the fact, that every experienced shipwright will undertake to build a vessel of a certain specified registered tonnage; and further that she shall carry so many specified tons over and above such register tonnage.

HENRY W. REVELEY.

RESIN OIL.

SIR,—As a Member, and one who takes a warm interest in the objects for which the Society of Arts was founded, I forward for insertion in your journal the particulars of a new process which I have discovered, for removing from resin oil its present noxious odour, which so much prevents its application in numerous instances, where from its cheapness it might be employed with great advantage.

My process consists in placing 100 gallons of the oil in a copper pan, or, what is better, in a pan of glazed iron, and adding thereto by degrees, 35lbs of sulphuric acid of a specific gravity of 1.845: the whole is then well stirred, and gently heated to a temperature of 300°. During this operation large quantities of gas and vapour are given off, the production of which is greatly facilitated by agitating the mass. The fumes having nearly ceased to arise, the whole is allowed to cool, and a clear brown liquor is decanted from a thick carbonaceous mass which adheres to the bottom of the vessel; and it is distilled in the ordinary way. A copper still is preferred to an iron one for this operation, as it is less acted upon by the small quantity of vitriol which remains in the oil. With the exception of the first and last products of distillation, the whole of the bulk of the oil distilled is nearly white, and it only requires to be heated at a low temperature, or by passing through it a jet of steam to obtain the resin oil, deprived, or nearly so, of any odour.

There is a simple contrivance which can be adopted to prevent by any chance the slight amount of acid which remains in the oil from acting upon the still; it consists in suspending in the centre of the still containing the oil, a basket filled with chalk, which neutralises, as the oil is set in motion by currents, any acid it may have retained.

The advantages of obtaining this cheap oil free from odour, and enabling it to be applied to various purposes from which it is now excluded will, I believe, more than cover the slight expense of the above process, and the loss of 10 per cent. of the oil experienced in the working.

F. C. CALVERT.

PROCEEDINGS OF SCIENTIFIC SOCIETIES.

ROYAL SCOTTISH SOCIETY OF ARTS.—The Society met in their Hall, 51, George-street, Edinburgh, on Monday 10th January; D. Stevenson, Esq., F.R.S.E., President, in the chair. The first paper read was by Mr. John Campbell, "On the Principles of Ascent from the Centre of Gravity." This was merely preliminary to another by the same author, "On the Cause of Upright Movement or Ascent from the Centre of Gravity, illustrated by the Antilunar Line." Mr. Campbell stated that the theory of the tides formed no part of the Newtonian philosophy. That which was now established in the British schools was contained in a paper written by Professor John M'Laurin, whose theory was, that the lunar tide was caused by the waters being drawn by the moon's attraction from the earth, and the antilunar tide by the earth being drawn from the waters. There was no difficulty as to the lunar tide; all were agreed that the moon attracted the earth; and as attraction increased and diminished inversely as the squares of the distance, the waters at the equator were more attracted than the waters at the centre and the poles, and, therefore, they rose into a tide. With regard to the antilunar tide, Mr. M'Laurin stated, that in consequence of the increasing distances between the moon and the lunar and antilunar equator, the earth would form a spheroid, whose longest axis would be in the line of the moon. For this theory the author proposed to substitute the following—that the lunar tide was produced by the waters nearest the moon being more attracted at the equator than at the poles, and the antilunar tide, by the waters at the poles being more attracted than those at the equator, and being resisted by the beds on which they rested, those that were most attracted displaced those that were least attracted, and compelled them to ascend and accumulate into a tide. The next paper was a "Description of a Self-acting Railway Signal," by Mr. Carrick. This signal consisted of a hollow cast iron column, in which a pendulum worked. This pendulum was set in motion by a lever acted upon the locomotive. Near the top of the column there was an orifice which could be obscured by a disc in the day time, and at night, by means of lamps and reflectors, could be made to give similar signals. The disc and the lamp were acted upon by the pendulum, and by the extent of its vibration the distance a-head of any train could be ascertained.

ZOOLOGICAL SOCIETY, Jan. 25th.—Dr. Gray, Vice-president in the chair. The Secretary read a letter from Mr. L. Fraser, H. M. Vice-Consul at Whidah, written from Clarence, Fernando Po, and addressed to Mr. Cuming. It contained some notice of the existence of a large Quadrumanous animal in the interior, called by the natives *Tap-par-po-har*, which is supposed by them to be a Chimpanzee, but which is considered by Mr. Fraser to be most probably a *Cynocephalus*. Mr. Fraser has not yet succeeded in obtaining a specimen. He describes two new birds obtained in June and July last at Fernando Po, under the names of *Bubo poensis*, and

Buceros poensis.—M. Deshayes read a paper on the animals of *Camostrea*, *Clementia*, and *Glaucome*, and in the course of it he took occasion to describe fourteen new species of the genus *Mactra* and two of *Clementia*.—Dr. Gray read a paper on the division of *Stenobranchiata Gasteropodous Mollusca*, in which he made use of the character afforded by the mouth, which he considers establishes the distinction of two great groups in a much more natural manner than the presence or absence of a syphon in the mouth, and to be more consistent with the habits of the animals, and much less liable to exceptions. The character upon which Dr. Gray chiefly relies is the form, disposition, and number of the teeth on the lingual membrane. M. Deshayes made some observations upon the manner in which the animals of these groups take their prey.

INSTITUTION OF CIVIL ENGINEERS.—Jan. 25th, J. M. Rendel, Esq., President, in the chair. The paper read was, "On the Construction of Fire-proof Buildings," by Mr. J. Barrett. Before proceeding to the immediate object of the paper, the author introduced some remarks on the use of timber for building purposes, and then referred to the iron-girder and brick-arch system of construction. The system recommended by the author consisted in the use of joists of wrought, or rolled iron, of an improved form, combining lightness with great strength and economy; and by the employment of layers of incombustible materials, chiefly concrete, supported by, and consolidated with, the joists, a strong and solid fire-proof foundation was obtained, upon which any description of finished surface, adapted for a floor, or roof, might be laid. This system, (with certain modifications in detail), had been applied at Guy's Hospital, King's College Hospital, the Training College at Chelsea, and the Flax-Mills, at Newry. From a comparison of the cost of different floors, it appeared that the fire-proof foundation, finished with the ordinary boarded surface, was, on the average, very little, if at all, more expensive than common timber floors.

PROCEEDINGS OF INSTITUTIONS.

CARLISLE.—On Tuesday last, M. J. Rae, Esq., D.D., delivered a Lecture on "Mind and its Culture" to the members of the Mechanics' Institute. The lecturer commenced by recounting several of the various opinions entertained by ancient and modern philosophers regarding the seat of the mind. He refuted the ordinary materialist opinion regarding the non-existence of mind; and showed that it could not be the result of the mere organization of the brain, nor yet an immaterial essence only, as maintained by Priestley and the more refined materialist philosophers; and that nothing but an immaterial and spiritual essence would suffice to account for the phenomena of mind. Dr. Rae next proceeded to point out the advantages of the study of mental philosophy to individuals, and concluded by glancing briefly at its effects on legislation, science, literature, and religion.

CHICHESTER.—On Wednesday, the 12th instant, a Lecture was delivered before the members of the Literary Society and Mechanics' Institute "On Burlesque," by Mr. C. Charles. The lecturer pointed out the uses and abuses of burlesque; and after alluding to the superficial resemblance sometimes presented by the sublime and the burlesque, proceeded to show that Shakspeare's quibbles were not always gratuitous, or jocular; closer attention often revealing a deeper purpose, generally enhanced by the epigrammatic

guise, and cited some instances exemplifying his remarks. He represented that the true suffers nothing from burlesque: while to the false, burlesque is fatal; and that it was not confined to literature and the stage, but examples of it might be found among the sculptured adornments of our metropolis, and the grotesque carvings in many of our cathedrals. He also remarked upon the equivocal nature of written communication, and the superiority of oral. The lecturer accompanied his observations with characteristic and humorous illustrations from Shakspeare, Ingoldsby, Hood, Planché, &c.

EXETER.—The Annual General Meeting of the members of the Literary Society took place on Friday, the 14th instant, in the Lecture-room, Athenæum; R. Dymond, jun., Esq., in the chair. The Report of the Committee was read by Mr. R. C. Halse, Secretary. It gave a detailed report of the proceedings of the Society during the past year; the latter portion of which had shown a great increase in the numbers, now amounting to 605. The Lectures, Library-classes, &c., had received vigilant attention, fully proving that, while the tastes of the members had been gratified with the pleasing departments of literature, music, &c., the more serious departments of educational and scientific knowledge had been fully cared for. The Report stated that, "It will be remembered that a few years since some of the members of this Society were mainly instrumental in establishing a Union of the various Literary Institutions of the West of England, with a view of enabling them to co-operate to their mutual advantage, more especially in the engagement of Lecturers, and the interchange of friendly communications and useful suggestions. Within the past twelve months the principles on which the Western Literary and Scientific Union was founded have been recognised by the Society of Arts,—one of the oldest and most valuable of the metropolitan Institutions. This Society suggested the formation of a central Union almost identical in character with that which existed in our own locality; and the Council of the latter, after maturely considering the plans of the Society of Arts, resolved to withdraw from their own less extensive sphere of operation and to recommend the Institutions comprising the Union to form a similar connection with that established by the Society of Arts." John Sillifant, Esq., was re-elected President. The Vice-presidents chosen were M. Kennaway, Esq., J. Daw, Esq., T. Latimer, Esq., R. W. Fox, Esq., R. Dymond, jun., Esq., A. P. Jarvis, Esq., S. Davies, Esq., and Mr. Treleven. The following were elected members of the Committee for the ensuing year:—Messrs. Clarke, Glenn, Treleven, Wilson, Burne, Jennings, Willis, Jarvis, R. Dymond, jun., Bailey, J. J. Dymond, Channon, Gould, Hill, Davies, Milne, Pope, O. A. Fox; and Messrs. J. J. Dymond, R. C. Halse, and J. T. Tucker, were respectively re-elected Treasurer, Secretary, and Librarian.

SOUTHAMPTON.—An admirable lecture on "The Life and Character of William Penn," was delivered by the Rev. J. W. Wyld to the members of the Polytechnic Institution, on Wednesday evening. The rev. gentleman gave a faithful sketch of the parentage, early prospects, life, and death of this extraordinary man, delineating the leading features of his remarkable career, and the great and noble principles by which his conduct was guided, in a masterly style. The lecture throughout was replete with instruction of the highest order, an obedience to the dictates of conscience, which formed the leading characteristic of Penn's valuable and useful life, being enforced upon his auditory with great power and eloquence.

TO CORRESPONDENTS.

Notice.—Members, and others, who can furnish or obtain original information or suggestions on the subjects included in the Society's Premium-list, or other topics connected with the Society's various departments of operation, are invited to communicate the same to the Secretary, in as condensed a form as possible, for the purpose of being either read and discussed at the evening meetings, or inserted in the Society's weekly Journal. Anonymous letters cannot be attended to. All communications, whether the author's name is to appear or not, must be accompanied by the writer's name and address.

Country Institutions.—Correspondents who are so good as to send reports of proceedings of Local Institutions, are requested to forward them immediately after the Meeting to which they refer, and not later than Tuesday morning, if intended for insertion in the following Friday's Journal.

B. B. (Loughborough).—The "Report of the Juries on the Great Exhibition" is published at a price of £1 1s.

A neat Case, for holding the Numbers of the Journal for half a year, is now ready, and may be had of the Publisher, 186, FLEET-STREET, price 1s. 8d.

QUESTIONS FROM CORRESPONDENTS.

Printers' Types.—What are the practical difficulties which stand in the way of employing machinery in the manufacture of ordinary printers' types in place of the present process of casting by hand. (No. 27.)

Book Indexing.—Are there any objections to colouring the edges of thick books, such as the *London Directory*, so as to facilitate reference to each particular section; or could not the name of the Directory, say, *STREET DIRECTORY*, be printed on the edges of the leaves after binding. (No. 28.)

MISCELLANEA.

SLUICE VALVES.—Mr. Jennings has recently patented an improvement in sluice valves, which consists in simplifying the construction by casting the "body" and the "faucet" ends in one piece, thus avoiding the use of bolts, nuts, and joints. The sluice is first fitted and made to work properly on the body of the valve; it is then removed, and, with two gun-metal faces, is turned, ground, and accurately fitted. The slide, through which a small hole has been previously drilled, is again placed on the valve, the two faces are introduced, and all firmly bolted together. The joints of the faces, which are dovetailed to the body, are then made with lead, or with iron cement; the bolt is removed, the hole plugged, and the valve is completed, at considerable saving of time and cost. These valves are stated to have been extensively used under considerable pressures.

COMMUNICATION BETWEEN THE GUARD AND THE ENGINE DRIVER OF A RAILWAY TRAIN.—Whilst other companies are considering what plans to adopt for accomplishing this object, the Brighton Company have, it is said, taken the initiative step, by applying to their express trains a simple contrivance which has been found to answer perfectly on many continental lines. This consists of a bell fixed near the engine driver, to which a line is attached, passing along the tops of the carriages, until it reaches the guard's van. The connection from carriage to carriage is made by an ordinary swivel fastening. Being placed outside the carriages it is not readily accessible to the passengers, so that one ground of objection is removed. At the same time, should any urgent necessity arise, it is perfectly possible for a passenger, by passing along the foot board to the space between the carriages, to reach the line, and so make the desired communication.

LIFE BOAT.—Mr. G. F. Parratt proposes to apply to an ordinary boat, Mackintosh air-chambers, which, when not in use, lie against the sides. They are attached at their upper edges to an elastic line, to which a netting is also fastened. When required for use, a loose spar is fitted transversely amidships, round the ends of which

the elastic line, with the pendant air-chambers, is passed, so as to form the two sides of a triangle, the sides of the boat facing the base. The plane of the triangle is occupied by the netting before alluded to; and thus an extended surface is obtained, on to which persons might jump, the netting being in a certain degree yielding, breaking the fall.

DUBLIN EXHIBITION.—At the Meeting of the Institution of Civil Engineers, on Tuesday last, Mr. Roney said that the Dublin Exhibition was progressing most favourably, and much beyond what was first anticipated. As a proof of this it might be stated, that the original size of the building would be nearly doubled; and that to meet the additional outlay, Mr. Dargan had increased his donation from 20,000*l.* to 50,000*l.* It was believed that the department of machinery in motion would be quite as interesting and attractive as that in the Great Exhibition. Mention was also made of the Society of Arts having determined that their East Indian Exhibition, and all the influence of their body, should be transferred to Dublin. There would also be a mediæval court, and an Archæological Collection, which would show that Ireland, though of late years not progressing so rapidly as this country, was, in former times, a country possessing high attributes of civilisation. There would likewise be a fine collection of pictures of every school. Mr. Roney concluded by soliciting the members to aid the Exhibition by the loan of models, whether working or stationary, and of works of art, of all of which great care would be taken.

PATENT LAW AMENDMENT ACT, 1852.

APPLICATIONS FOR PATENTS AND PROTECTION ALLOWED.

From Gazette, 21st Jan., 1853.

Dated 1st Jan., 1853.

8. J. H. Johnson—Improvements in the manufacture of oils. (A communication.)

Dated 3rd Jan.

12. E. A. Chameroy—Motive power.
18. C. J. Burnett—Driving machinery by water.

Dated 6th Jan.

31. W. L. Sheringham—Illuminating buoys and beacons.
33. J. Browne—Construction of ships, &c.
37. M. Smith—Separating gold from other materials.
39. W. E. Newton—Bearings for shafts, turntables, &c., called Parry's Improvements. (A communication.)
41. P. Graham—Carpets and piled fabrics.
42. W. S. Ward—A thermostat for temperature and ventilation.
43. W. Watson—Apparatus for manufacture of prussiate of potash.

Dated 7th Jan.

44. C. de Bergue—Permanent way.
45. T. Pape—Circular frames, and fabrics produced thereby.
47. C. W. Lancaster—An appendage to bullet-moulds.
48. G. Stewart—Railways and propulsion of engines.
49. H. G. James—Retaining corks and stoppers in bottles.
50. R. Gittins—Improvements in tills.
51. H. Marshall—Transmission and emission of air and sound.
52. J. E. A. Gwynne—Propulsion of vessels. (A communication.)

Dated 8th Jan.

53. R. Lovely—Steam to propulsion of carriages on common roads.
54. T. Smith—Soil-pans.
55. J. Abraham—Percussion-caps.
56. H. Kibble—Communication between guards and drivers.
58. J. H. Johnson—Stoves for cooking. (A communication.)
60. R. Walker—Manufacture of buttons.

Dated 10th Jan.

61. A. Hiron—Copying figures in marble, &c.
62. C. S. Duncan—Rendering jars, bottles, &c., air and water-tight, and raising and measuring the liquid contents thereof.
63. J. Deane—Diving-helmet.
64. M. Fitch—Improvements in ovens.
65. W. Webb—Manufacture of carpets.
66. J. D. M. Stirling—Percussion-caps.
67. F. Schneider—A chair for preventing sea-sickness.
68. A. V. Newton—Separating substances of different specific gravities.

Dated 11th Jan.

70. W. Weild—Looms for weaving.
72. J. and J. Thornton—Improved nets and other textile fabrics for gloves, &c., and the machinery for the same.
74. T. Cottrill—Manufacture of salts of soda.

Dated 12th Jan.

76. J. Horrocks—Registering passengers in public carriages.
78. N. Card—Improvements in candlewick.
82. J. Arrowsmith—Machinery for shaping metals.
84. G. A. Huddart—Steam generators.

From Gazette, 23rd Jan., 1853.

NONE.

WEEKLY LIST OF PATENTS SEALED.

Sealed 20th Jan., 1853.

857. John Gedge, of 4, Wellington-street, Strand—Improvements in the mechanism of looms for weaving.

Sealed 21st Jan.

17. Charles Henry Newton, of 192, Camden-road Villas, and George Ludham Fuller, of Peckham—Improvements in protecting electric telegraph wires.
113. Richard Harczyk, of St. Mark-street, Tenter-ground, Goodman's-fields—Improved preparation or composition of colouring matter, to be used in washing or bleaching linen and other washable fabrics, and in the manufacture of paper and other substances.
453. Frederick Richards Robinson, of Charlestown, Massachusetts, U. S.—Improvement in the gridiron, or instrument for cooking steak and other articles by broiling.
489. Peter Armand, Le Comté de Fontaine Moreau, of 4, South-street, Finsbury—Improvements in apparatus for essaying silk, cotton, and other similar fibrous substances.
528. Halsey Draper Walcott, of Boston, Massachusetts, U. S.—Improved mechanism or contrivance for cutting button-holes or slits in cloth or other material.
632. Nehemiah Hodge, of N. Adams, Massachusetts, U. S.—Invention for discharging water from the hold of a vessel.
654. Richard Wright, of Greenwich—Improvements in shafts and plummer-blocks.
677. Andrew Robeson, Jun., of Newport, Rhode Island, U. S.—Improved mode of bowking or bucking cloth.
712. Christian Sharps, of Hartford, Connecticut, U. S.—Improvements in breach-loading fire-arms.
759. Abraham Rogers, of Field House, near Bradford, Yorkshire—Improvements in apparatus used for forming sewers, tunnels, and ways.
787. Moses Poole, of Serle-street—Improvements in the manufacture of seamless garments and other seamless fabrics. (A communication.)
789. George Perry Tewkesbury, of Boston, Massachusetts, U. S.—Improved life-preserving seat.
791. Richard Kemsley Day, of White Cottage, Plaistow—Improvements in the manufacture of fuel for lighting fires.
794. Moses Poole, of Serle-street—Improvements in cementing matters in the production of ornamental and other forms and surfaces. (A communication.)
817. John Pepper, Jun., of Portsmouth, New Hampshire, U. S.—Improved machine for knitting ribbed work.
820. Samuel Hunter, of 13, Ravensworth-terrace, Gateshead—Improvements in anchors.
854. Edward Aitchison, Lieutenant in the Royal Navy, of 14, Manor-street, Chelsea, and John Evans, of 8, Hamilton-st., Wandsworth-road—Improvements in furnaces.
863. Henry Holland, of Birmingham—Improvements in the manufacture of umbrellas and parasols.
867. Charles Iles, of Birmingham—Improvements in the manufacture of chimney-pieces.
881. Henry Bollmann Condry, of Battersea—Improvements in the manufacture of acetic acid and acetates.
883. William Massingham, of Ipswich—Improvements in carriages and apparatus for carrying the dead.
897. George Houghton, of 74, High-street, Birmingham—Improvements in the manufacture of college caps.
913. James Murdoch, of Staple Inn—Improved materials for use in painting. (A communication.)
959. James Newall, of Bury, Lancaster—Improvements in breaks, machinery, or apparatus applied to railway and other carriages in motion, and in the mode or method of connecting two or more of such breaks together.

Sealed 22nd Jan.

75. Laurentius Mathias Eiler, of Denmark, now residing at Leadenhall-street—Apparatus to release or separate carriages on railroads in case of accident, giving at the same time a signal of distress.
86. David Dunne Kyle, of 120, Albany-street, Regent's-park—Improved method of excavating and removing earth.
232. John Prestwich the elder, Samuel Prestwich, and John Prestwich the younger, of Tamworth, near Bolton, Lancaster—Improvements in machinery or apparatus for cleaning and finishing woven fabrics.

412. John Howard, of Bolton, Lancaster—Improvements in the construction of steam-boilers or steam generators.
451. Robert Brown, of Manchester—Improvements in the method of ventilating buildings or apartments, and in the apparatus connected therewith.
466. Robert Burns and Richard Pritchard Walett, of Liverpool—Improvements in machinery or apparatus for cutting bones.
660. James Nichol, of Edinburgh—Improvements in the process of graining or ornamenting surfaces and fabrics.
729. Thomas Day, of Upper Mall, Hammersmith—Improvements in landing and screening coals, and delivering them into sacks.
742. Hugh Greaves, of Salford, near Manchester—Improvements in the permanent way of railways.
886. Edward Lewis Brundage, of Jewin-crescent—Improvements in apparatus for drawing off fluids from animal bodies. (A communication.)
894. William Joseph Curtis, of Grafton-place, Euston-square—Improvements in the formation of tramroads or railroads, and carriages that run thereon.
938. Charles Millar, of Dundee—Improvements in timekeepers, or clockwork, and in machinery or apparatus worked in connection therewith.

Sealed 24th Jan.

565. William Henry Fox Talbot, of Lacock Abbey, Wiltshire—Improvements in the art of engraving.
568. Richard Archibald Brooman, of 166, Fleet-street—Improvements in tackle-blocks.
601. Julius Jeffreys, of Croydon—Improvements in obtaining power when steam or other vapour is used.
617. John Macintosh, of Aberdeen—Improvements in the manufacture of paper.
619. George Fergusson Wilson, of Belmont, Vauxhall—Improvements in the preparation of materials for and in the manufacture of candles and night-lights.
683. Jean Jacques Ziegler, of Guebwiller, department du Haut Rhin, France—Improvements in machinery for preparing to be spun cotton, wool, silk-waste, flax, tow, and other fibrous substances.
737. John Patterson, of Wood-street—Improvements in apparatus for shaping collars and other similar linen and cotton articles.
766. William Marsden, of Blackburn, Lancaster—Improvements in, and applicable to, looms for weaving.
782. John Venables Vernon and John Edge, of Manchester—Improvements in apparatus and machinery for engraving rollers of glass, copper, brass, and other metallic compounds.
800. Richard Taylor, of Clayton-bridge, Newton-heath, near Manchester—Improvements in heating dye-cisterns and soap-cisterns, used in the process of calico-printing.
834. Charles Watt, of Brompton—Improvements in obtaining currents of electricity.
900. Samuel Cunliffe Lister, of Manningham, Yorkshire, and James Warburton, of Addingham, Yorkshire—Improvements in the manufacture of yarn from fibrous materials.
952. Duncan M'Nee, of Kirkintulloch, Dumbarton—Machine for printing with colours on cloth, and which is also applicable for printing ornamental designs on paper.

Sealed 25th Jan.

20. Charles Frederick Bielfeld, of the Strand—Improvements in constructing portable houses and buildings.
363. John Carter, of Meltham Almondbury, Yorkshire—Improvements in the manufacture of woven fabrics.
549. Bryan Donkin, the Younger, of Bermondsey, and Bernard William Farey, of Commercial-road, Old Kent-road—Improvements in the machinery for measuring and marking off long lengths or continuous webs of paper or other materials into any required lengths for the purpose of being cut or otherwise disposed of.
589. William Danteo, of Liverpool—Improvements in preventing incrustation in steam-boilers.
907. Jean David Schneider, of 8, Rue de l'Abbaye, Paris—Improvements in maps and charts.
927. Robert Milligan, of Harden Mills, Bingley, Yorkshire—Improvements applicable to combing machinery.
951. Arthur Wall, of East India-road—Improvements in preparing sheet metal for ship-building and other uses.
985. William Mayo, of Berners'-street—Improvements in balls or float-valves and cocks.

Sealed 26th Jan.

691. William Gossage, of Widnes, Lancaster—Improvements in obtaining sulphur from certain metallic sulphurets.

WEEKLY LIST OF DESIGNS FOR ARTICLES OF UTILITY REGISTERED.

Date of Registration.	No. in the Register.	Title.	Proprietor's Name.	Address.
Jan. 12	3410	A Stereoscope, or Binocular Case.	Wm. Edwd. Kilburn	234, Regent-street.
" 13	3411	The Manifold Vest.	Nield and Collauder	5, Little Friday street, City.
" 14	3412	Summer Collar-tie.	John Paterson	Wood-street, City.
" 17	3413	Improved Bearing and Hooks for Scale-beams.	Thomas and John Driver	39, Minories.